Periscope.

PHYSIOLOGICAL.

On Little Known Special Manifestations in Nervous Diseases, and on the Diagnostic Significance of the Ankle Clonus and of the Variations in Tendon and Cutaneous Reflexes.— Bechterew (*Neurologiczeski Wiestnik*, 1895, Vol. iii., No. 2).

1. The first phenomenon described concerns hemiplegics.

If the hemiplegia is such that the patient is not able to perform any voluntary movements with the paralyzed arm, the following phenomenon can be frequently produced. When the forearm of the paralyzed side is passively flexed ad maximum on the arm and is then extended by rapid force, the extension does not take place uniformly as under normal conditions, but, arrived at a certain position, the forearm suddenly stops in its downward movement or even rebounds ; the continuation of the extension until the forearm is in a straight line with the forearm occurs normally without a repetition of the phenomenon described. The latter is causally connected with the rapid distention of the biceps muscle.

2. In some cases of multiple neuritis and of tetany B. has noticed a retardation of the knee-jerk, that is, the latter would not take place immediately after the tendon was hit, but some time would elapse between the stimulus and the response ; yet in force the knee-jerk was not diminished. If in such a case the tendon was repeatedly percussed with the hammer for some time, the knee-jerk diminished in force and finally disappeared. When after some rest the knee-jerk was tried again, it was found to have reappeared, but was still more retarded than at the beginning of the test. The author compares the phenomenon with the retardation of the cutaneous reflexes met with in locomotor ataxy.

3. In cases of motor and sensory paraplegia, chiefly in those of spinal, occasionally also in such of cerebral origin, the following reflex was sometimes observed : Slight and uniform percussion of the anterior side of the tibia was followed by periodic contractions in the muscles of the thigh, occurring repeatedly at regular intervals (no less than every four minutes, at the most every ten to twelve minutes, on the average every six to seven minutes). Sometimes these contractions were so intense as to lead to a flexion of the knee. Nothing definite can be said of the diagnostic value of this symptom, apparently it is in those cases which present exaggeration of the tendon reflexes.

4. Discusses the diagnostic value of the ankle clonus and of the exaggeration of the knee-jerk.

a. Ankle clonus :

From observations made by him and other authors B. concludes that the ankle clonus is not as characteristic of primary or secondary affections of the pyramidal tracts as many neurologists seem to assume. In confirmation of Gowers' observations, he has seen the occurrence of ankle clonus in hysteria. He also confirms Westphal's statement that it is sometimes present in cases of chronic articular rheumatism. Aside from this B. has seen this phenomenon in cases of myoclonus multiple, of akinesia algera, occasionally also of multiple neuritis. The fact that in these cases the clonus was most developed when the disease was at its height and diminished when the disease subsided proves the causal connection with the latter.

b. Unequality of the knee-jerks.

The question is discussed whether unequality of the knee-jerks, that is, a difference in force and promptness between the knee-jerk of one and that of the other side, can be considered as a sign of organic nervous disease. The question is answered in the negative, as this unequality is found also in functional nervous diseases, viz., in akinesia algera, myoclonus multiplex, hysteria and neuralgia (for instance, neuralgia of the sciatic nerve; it is true that here the neuralgia may sometimes be organic). Inequality of the knee-jerk may also be met with in chronic articular rheumatism when the disease is localized in the joints of one side only. In hysterical palsies the tendon reflexes are frequently increased on the side of the paralysis. When hemianæsthesia is associated with it, the cutaneous reflexes are diminished in contrast to the increase of the tendon reflexes.

5. Treats on cutaneous and other reflexes as influenced by sensory disturbances.

Anæsthesia causes lessening, hyperæsthesia exaggeration of the cutaneous reflexes. Aside from the exaggeration of the cutaneous reflexes, there are other signs that can help us prove the existence of hyperæsthesia in doubtful cases, viz :

a. The production of the pain reflex of the pupil by means of sensory irritation of so slight degree that under normal circumstances it would not cause any pain.

b. The vasomotor effects (rushing of blood to the head, acceleration of the pulse, change of the pulse curve), the vertigo and the alterations of the character of respiration called forth by pain stimulus of quite mild degree (pinching, stinging).

These symptoms often seen in hysteria and traumatic neurosis are of diagnostic value as they make it easier to make the differential diagnosis between said neuroses and simulation. ONUF.

PATHOLOGICAL.

The Posterior Corpora Bigemina as Centres of Hearing, of the Voice and of Special Movements.—Bechterew (*Neurologiczeski Wiestnik*, 1895, Vol. iii., No. 2. Russian).

After discussion of the anatomical investigations which have proven the connection of the posterior corpora bigemina with the eighth nerve, the author passes over to a report of the results produced by ablation (and excitation) of these masses of gray substance. The experiments were performed upon rabbits, guinea pigs and white rats. The following conclusions are reached :

1. If the destruction of both posterior corpora bigemina was sufficiently thorough, a more or less marked diminution of hearing or complete deafness followed.

Superficial destruction of the gray masses mentioned did not have any noticeable influence upon the sense of hearing of the animals.

2. Where the ablation had been sufficient, it was noticed that besides the impairment of the sense of hearing, a weakening or even complete cessation of the voice was the consequence. Unilateral ablation caused only weakening of the voice. Superficial ablation had no effect upon it.

3. After thorough ablation of the posterior corpora bigemina the animals lose the faculty of standing and gait, although otherwise the motility of the extremities is preserved.

The symptoms observed during the first hours after the lesion of the posterior corpora bigemina were: Staggering gait, forced movements or forced positions, sometimes manege movements with devia-